

# *APS/Users' Operations Monthly Meeting*

*Dennis M. Mills*

*Deputy Associate Laboratory Director*

*Scientific User Facilities*

*Advanced Photon Source*

*July 26, 2006*



# Agenda

- Update and News - Dennis Mills
- APS Upgrade Workshop - Rod Gerig
- Safety Updates - Tom Barkalow
- Technical Presentation: *“Probing Ion Adsorption at Mineral Water Interfaces with Resonant Anomalous X-ray Reflectivity”*, Changyong Park (Chemistry/ANL)



## Cyber Audit by DOE Office of Assessment (DOE/OA)

- OA was able to compromise a single host during their onsite testing. The Audit team felt that we deployed excellent defense and in fact the Audit team left a day early because they could find no serious vulnerabilities.
- The Argonne cyber program received praise from the Audit team for our dedication and successful implementation of a cyber program in a science environment.
- The Audit team was very impressed with the progress that has been made with our Certification and Accreditation (C&A) package, and felt that it was the furthest along of any of the other 11 sites that have been audited to this point.
- *"Argonne has raised the bar on cyber security but remember that today's A is tomorrow's B, so don't let up."*



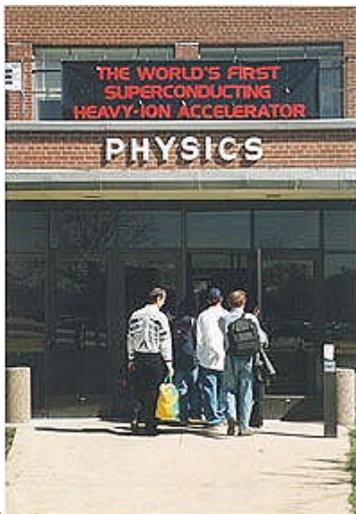
## Education and Summer Schools

- ACA Summer School in Macromolecular Crystallography (July 10-22)
  - The school features lectures, lab exercises, hands-on data collection on conventional sources, and data collection at several protein crystallographic beamlines at the APS.
  - Organizers: Andy Howard
- APS XAFS School (July 26-28)
  - The 2006 APS XAFS School will cover advanced topics in the analysis of XAFS data. The course is aimed at scientists with experience with data processing and some familiarity with XAFS analysis and modeling
  - Organizers: Matt Newville, Julie Cross, and Bruce Ravel
- National School on Neutron and X-ray Scattering (August 13-27)
  - The main purpose of the National School on Neutron and X-ray Scattering is to educate graduate students on the utilization of major neutron and x-ray facilities.
  - Organizers: Raymond Osborn and Dean Haeffner, Scientific Directors  
*Jonathan Lang, Experimental Coordinator -APS and Chris Benmore, Experimental Coordinator -IPNS*

Thanks to all the staff who help out and to the beamline managers who provide beamtime!

## ANL Open House

- Argonne is opening its gates to the community on Saturday, Oct. 7, from 9 AM to 4:30 PM to celebrate our 60th anniversary. We are planning a day of fun and education for the entire family.
- The APS will be running that day. We will be developing a self-guided tour of the APS. Members of the public will most likely ONLY have access to the EAA and NOT the beamlines.
- Additional updates will be coming.....



[http://www.anl.gov/Community\\_and\\_Environment/Open\\_House\\_2006.html](http://www.anl.gov/Community_and_Environment/Open_House_2006.html)

## *APS/ESRF/SPRING-8 Three-way Meeting*

- The latest Three-Way meeting between the 3rd generation hard x-ray sources was held June 19-21 at the ESRF in Grenoble, France.
  
- Discussion topics:
  - Facility status reports
  - Report on Thermal Limitations Workshop
  - Aging of accelerator components
  - Top-up; experience and future plans
  - Optics Workshop report
  - Micro- and nano-focusing
  - High energy insertion devices
  - Extreme conditions; science and techniques
  - Accelerator complex; recent highlights and future developments
  - X-ray imaging
  - Synchrotron radiation instrumentation: optics, detectors, sample environment, computing...
  - Discussion: possibilities for collaborative projects, topics of general interest (organizational issues, governance, international networking of SR facilities, etc)



## Three-way Meeting Highlights

- ESRF has 42 operational beamlines (32 IDs and 11 CRGs) and currently accepts less than 50% of requests for beamtime.
  
- ESRF is developing a medium term upgrade plan (estimated cost 230M Euro)
  - Longer straights (from 6m to 7.2m) with canted IDs (3 mrad is goal)
  - Beamline/ID upgrades
  - Extension of Exp. Hall to house several long (80m-100m) beamlines
  
- ESRF science focus will be:
  - Pump/probe
  - Nanoscience
  - Extreme conditions (magnetic, pressure, etc.)
  - Structural/functional biology
  - Imaging
  
- ESRF is also looking at a long term upgrade plan that would reduce the emittance from 4 nm-rad to 1 nm-rad.



## *Three-way Meeting Highlights (cont.)*

- SPring-8 (48 operational beamlines) schedules 4500 user hrs/year and has a proposal acceptance rate of about 70%.
  
- To help offset declining budgets, SPring-8 will institute a “user fee” (approximately \$100/shift) starting July 2006.
  
- Industrial usage rising at SPring-8
  - 2000 users from 170 companies
  - 20% of accepted proposals are from industry
  
- The SPring-8 Compact SASE Source (SCSS) - a 1Å XFEL
  - room-temperature C-band 8 GeV linac feeding 120 meters of undulator
  - Project underway (\$310M over 5 years)
  - The linac and FEL beamlines are “aimed” at the storage ring to allow for a synergy between the two accelerators (SCSS pump/SPring-8 probe experiments, injecting short pulses in to SPring-8, etc.)

